



SEQUENCE LISTING

RECEIV

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SEARCH CENTER 16

<110> Liu, Qingyun
McDonald, Terrence
Bonnert, Timothy P.
Ng, Gordon
Kolakowski, Lee F., Jr.
Clark, Janet
Bonner, Tom I.

<120> NOVEL GABAB RECEPTOR DNA SEQUENCES

<130> 20052YP

<140> 09/601,582
<141> 2000-12-04

<150> PCT/US99/02361
<151> 1999-02-03

<150> 60/073,767
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<212> PRT
<213> Homo Sapiens

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Val Glu Leu Ala Ile Glu Gln Ile Arg Asn	Glu Ser Leu Leu Arg Pro					
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Tyr Phe Leu Asp Leu Arg Leu Tyr Asp Thr	Glu Cys Asp Asn Ala Lys					
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Gly Leu Lys Ala Phe Tyr Asp Ala Ile Lys	Tyr Gly Pro Asn His Leu					
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Pro Ser Asp Asn Ala Val Asn Pro Ala Ile	Leu Lys Leu Leu Lys His					
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 225 230 235 240
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 Gln Asn Met Ala Ala Lys Val Phe Cys Cys Ala Tyr Glu Glu Asn Met
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 Asp Ser Arg Glu Val Lys Val Gly Glu Tyr Asn Ala Val Ala Asp Thr
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 Leu Glu Ile Ile Asn Asp Thr Ile Arg Phe Gln Gly Ser Glu Pro Pro
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 Lys Asp Lys Thr Ile Ile Leu Glu Gln Leu Arg Lys Ile Ser Leu Pro
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 Ser Ala Phe Leu Phe Asn Ile Lys Asn Arg Asn Gln Lys Leu Ile
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<212> DNA

<213> Homo Sapiens

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<210> 16

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<213> Pseudomonas aeruginosa

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 Val Gly His Val Cys Ser Ser Ser Thr Gln Pro Ala Thr Asp Ile Tyr
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 Glu Asp Glu Gly Val Leu Met Ile Thr Pro Ser Ala Thr Ala Pro Glu
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 Ile Thr Ser Arg Gly Tyr Lys Leu Ile Phe Arg Thr Ile Gly Leu Asp
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 Asn Met Gln Gly Pro Val Ala Gly Lys Phe Ile Ala Glu Arg Tyr Lys
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 Val Lys Thr Ile Ala Val Leu His Asp Lys Gln Gln Tyr Gly Glu Gly
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 Ile Ala Thr Glu Val Lys Lys Thr Val Glu Asp Ala Gly Ile Lys Val
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 Ala Val Phe Glu Gly Leu Asn Ala Gly Asp Lys Asp Phe Asn Ala Leu
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 Tyr His Pro Glu Met
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<210> 17

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<212> PRT

<213> Mus musculus

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 Ser Phe Phe Ser Asp Pro Ala Val Pro Val Lys Asn Leu Lys Arg Gln
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 Gly Gly Gly Arg Ser Gly Val Arg Leu Glu Asp Phe Asn Tyr Asn
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 Tyr Gly Ser Met Phe Thr Lys Ile Trp Trp Val His Thr Val Phe Thr
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 Ala Lys Glu Glu Pro Lys Glu Asp Ile Asp Val Ser Ile Leu Pro Gln
 625 630 635 640
 Leu Glu His Cys Ser Ser Lys Lys Met Asn Thr Trp Leu Gly Ile Phe
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 Glu Lys Ser Arg Leu Leu Glu Lys Glu Asn Arg Glu Leu Glu Lys Ile
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 Ile Ala Glu Lys Glu Glu Arg Val Ser Glu Leu Arg His Gln Leu Gln
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 Ser Arg Gln Gln Leu Arg Ser Arg Arg His Pro Pro Thr Pro Pro Asp
 805 810 815
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 Ser Cys Asp Gly Ser Arg Val His Leu Leu Tyr Lys
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 Leu Met Pro Leu Thr Ser Ile Met Gly Leu Met Pro Leu Thr Lys Glu
 50 55 60
 Val Ala Lys Gly Ser Ile Gly Arg Gly Val Leu Pro Ala Val Glu Leu
 65 70 75 80
 Ala Ile Glu Gln Ile Arg Asn Glu Ser Leu Leu Arg Pro Tyr Phe Leu
 85 90 95
 Asp Leu Arg Leu Tyr Asp Thr Glu Cys Asp Asn Ala Lys Gly Leu Lys
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 Ala Phe Tyr Asp Ala Ile Lys Tyr Gly Pro Asn His Leu Met Val Phe
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 Gly Gly Val Cys Pro Ser Val Thr Ser Ile Ile Ala Glu Ser Leu Gln
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 Gly Trp Asn Leu Val Gln Leu Ser Phe Ala Ala Thr Thr Pro Val Leu
 145 150 155 160
 Ala Asp Lys Lys Tyr Pro Tyr Phe Phe Arg Thr Val Pro Ser Asp

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Arg	Asn	Asp	Leu	Thr	Gly	Val	Leu	Tyr	Gly	Glu	Asp	Ile	Glu	Ile	Ser
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Asp	Thr	Glu	Ser	Phe	Ser	Asn	Asp	Pro	Cys	Thr	Ser	Val	Lys	Lys	Leu
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Lys	Gly	Asn	Asp	Val	Arg	Ile	Ile	Leu	Gly	Gln	Phe	Asp	Gln	Asn	Met
			245				250			255					
Ala	Ala	Lys	Val	Phe	Cys	Cys	Ala	Tyr	Glu	Glu	Asn	Met	Tyr	Gly	Ser
			260			265			270						
Lys	Tyr	Gln	Trp	Ile	Ile	Pro	Gly	Trp	Tyr	Glu	Pro	Ser	Trp	Trp	Glu
			275			280			285						
Gln	Val	His	Thr	Glu	Ala	Asn	Ser	Ser	Arg	Cys	Leu	Arg	Lys	Asn	Leu
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Ser	Lys	Gln	Ile	Lys	Thr	Ile	Ser	Gly	Lys	Thr	Pro	Gln	Gln	Tyr	Glu
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Arg	Glu	Tyr	Asn	Asn	Lys	Arg	Ser	Gly	Val	Gly	Pro	Ser	Lys	Phe	His
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Gly	Tyr	Ala	Tyr	Asp	Gly	Ile	Trp	Val	Ile	Ala	Lys	Thr	Leu	Gln	Arg
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Ala	Met	Glu	Thr	Leu	His	Ala	Ser	Ser	Arg	His	Gln	Arg	Ile	Gln	Asp
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Asn	Glu	Thr	Asn	Phe	Phe	Gly	Val	Thr	Gly	Gln	Val	Val	Phe	Arg	Asn
				405				410			415				
Gly	Glu	Arg	Met	Gly	Thr	Ile	Lys	Phe	Thr	Gln	Phe	Gln	Asp	Ser	Arg
			420				425			430					
Glu	Val	Lys	Val	Gly	Glu	Tyr	Asn	Ala	Val	Ala	Asp	Thr	Leu	Glu	Ile
			435			440			445						
Ile	Asn	Asp	Thr	Ile	Arg	Phe	Gln	Gly	Ser	Glu	Pro	Pro	Lys	Asp	Lys
			450			455			460						
Thr	Ile	Ile	Leu	Glu	Gln	Leu	Arg	Lys	Ile	Ser	Leu	Pro	Leu	Tyr	Ser
			465			470			475			480			
Ile	Leu	Ser	Ala	Leu	Thr	Ile	Leu	Gly	Met	Ile	Met	Ala	Ser	Ala	Phe
				485			490			495					
Leu	Phe	Phe	Asn	Ile	Lys	Asn	Arg	Asn	Gln	Lys	Leu	Ile	Lys	Met	Ser
			500				505			510					
Ser	Pro	Tyr	Met	Asn	Asn	Leu	Ile	Ile	Leu	Gly	Gly	Met	Leu	Ser	Tyr
			515				520			525					
Ala	Ser	Ile	Phe	Leu	Phe	Gly	Leu	Asp	Gly	Ser	Phe	Val	Ser	Glu	Lys
			530			535			540						
Thr	Phe	Glu	Thr	Leu	Cys	Thr	Val	Arg	Thr	Trp	Ile	Leu	Thr	Val	Gly
			545			550			555			560			
Tyr	Thr	Thr	Ala	Phe	Gly	Ala	Met	Phe	Ala	Lys	Thr	Trp	Arg	Val	His
				565			570			575					
Ala	Ile	Phe	Lys	Asn	Val	Lys	Met	Lys	Lys	Ile	Ile	Lys	Asp	Gln	
			580				585			590					
Lys	Leu	Leu	Val	Ile	Val	Gly	Gly	Met	Leu	Leu	Ile	Asp	Leu	Cys	Ile
			595				600			605					
Leu	Ile	Cys	Trp	Gln	Ala	Val	Asp	Pro	Leu	Arg	Arg	Thr	Val	Glu	Lys
			610			615			620						
Tyr	Ser	Met	Glu	Pro	Asp	Pro	Ala	Gly	Arg	Asp	Ile	Ser	Ile	Arg	Pro
			625			630			635			640			
Leu	Leu	Glu	His	Cys	Glu	Asn	Thr	His	Met	Thr	Ile	Trp	Leu	Gly	Ile
				645			650			655					
Val	Tyr	Ala	Tyr	Lys	Gly	Leu	Leu	Met	Leu	Phe	Gly	Cys	Phe	Leu	Ala

	660	665	670												
Trp	Glu	Thr	Arg	Asn	Val	Ser	Ile	Pro	Ala	Leu	Asn	Asp	Ser	Lys	Tyr
			675		680							685			
Ile	Gly	Met	Ser	Val	Tyr	Asn	Val	Gly	Ile	Met	Cys	Ile	Ile	Gly	Ala
			690		695						700				
Ala	Val	Ser	Phe	Leu	Thr	Arg	Asp	Gln	Pro	Asn	Val	Gln	Phe	Cys	Ile
			705		710						715				720
Val	Ala	Leu	Val	Ile	Ile	Phe	Cys	Ser	Thr	Ile	Thr	Leu	Cys	Leu	Val
			725		730						735				
Phe	Val	Pro	Lys	Leu	Ile	Thr	Leu	Arg	Thr	Asn	Pro	Asp	Ala	Ala	Thr
			740		745						750				
Gln	Asn	Arg	Arg	Phe	Gln	Phe	Thr	Gln	Asn	Gln	Lys	Lys	Glu	Asp	Ser
			755		760						765				
Lys	Thr	Ser	Thr	Ser	Val	Thr	Ser	Val	Asn	Gln	Ala	Ser	Thr	Ser	Arg
			770		775						780				
Leu	Glu	Gly	Leu	Gln	Ser	Glu	Asn	His	Arg	Leu	Arg	Met	Lys	Ile	Thr
			785		790						795				800
Glu	Leu	Asp	Lys	Asp	Leu	Glu	Glu	Val	Thr	Met	Gln	Leu	Gln	Asp	Thr
			805		810						815				
Pro	Glu	Lys	Thr	Thr	Tyr	Ile	Lys	Gln	Asn	His	Tyr	Gln	Glu	Leu	Asn
			820		825						830				
Asp	Ile	Leu	Asn	Leu	Gly	Asn	Phe	Thr	Glu	Ser	Thr	Asp	Gly	Gly	Lys
			835		840						845				
Ala	Ile	Leu	Lys	Asn	His	Leu	Asp	Gln	Asn	Pro	Gln	Leu	Gln	Trp	Asn
			850		855						860				
Thr	Thr	Glu	Pro	Ser	Arg	Thr	Cys	Lys	Asp	Pro	Ile	Glu	Asp	Ile	Asn
			865		870						875				880
Ser	Pro	Glu	His	Ile	Gln	Arg	Arg	Leu	Ser	Leu	Gln	Leu	Pro	Ile	Leu
			885		890						895				
His	His	Ala	Tyr	Leu	Pro	Ser	Ile	Gly	Gly	Val	Asp	Ala	Ser	Cys	Val
			900		905						910				
Ser	Pro	Cys	Val	Ser	Pro	Thr	Ala	Ser	Pro	Arg	His	Arg	His	Val	Pro
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<210> 19

<211> 2883

<212> DNA

<213> Mus musculus

<400> 19

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tga						2883

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<211> 960

<212> PRT

<213> Mus musculus

<400> 20

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 Thr Lys Tyr Leu Tyr Glu Leu Leu Tyr Asn Asp Pro Ile Lys Ile Ile
 225 230 235 240
 Leu Met Pro Gly Cys Ser Ser Val Ser Thr Leu Val Ala Glu Ala Ala
 245 250 255
 Arg Met Trp Asn Leu Ile Val Leu Ser Tyr Gly Ser Ser Ser Pro Ala
 260 265 270
 Leu Ser Asn Arg Gln Arg Phe Pro Thr Phe Phe Arg Thr His Pro Ser
 275 280 285
 Ala Thr Leu His Asn Pro Thr Arg Val Lys Leu Phe Glu Lys Trp Gly
 290 295 300
 Trp Lys Lys Ile Ala Thr Ile Gln Gln Thr Thr Glu Val Phe Thr Ser
 305 310 315 320
 Thr Leu Asp Asp Leu Glu Glu Arg Val Lys Glu Ala Gly Ile Glu Ile
 325 330 335
 Thr Phe Arg Gln Ser Phe Phe Ser Asp Pro Ala Val Pro Val Lys Asn
 340 345 350
 Leu Lys Arg Gln Asp Ala Arg Ile Ile Val Gly Leu Phe Tyr Glu Thr
 355 360 365
 Glu Ala Arg Lys Val Phe Cys Glu Val Tyr Lys Glu Arg Leu Phe Gly
 370 375 380
 Lys Lys Tyr Val Trp Phe Leu Ile Gly Trp Tyr Ala Asp Asn Trp Phe
 385 390 395 400
 Lys Thr Tyr Asp Pro Ser Ile Asn Cys Thr Val Glu Glu Met Thr Glu
 405 410 415
 Ala Val Glu Gly His Ile Thr Thr Glu Ile Val Met Leu Asn Pro Ala
 420 425 430
 Asn Thr Arg Ser Ile Ser Asn Met Thr Ser Gln Glu Phe Val Glu Lys
 435 440 445
 Leu Thr Lys Arg Leu Lys Arg His Pro Glu Glu Thr Gly Gly Phe Gln
 450 455 460
 Glu Ala Pro Leu Ala Tyr Asp Ala Ile Trp Ala Leu Ala Leu Ala Leu
 465 470 475 480
 Asn Lys Thr Ser Gly Gly Gly Arg Ser Gly Val Arg Leu Glu Asp
 485 490 495
 Phe Asn Tyr Asn Asn Gln Thr Ile Thr Asp Gln Ile Tyr Arg Ala Met
 500 505 510
 Asn Ser Ser Ser Phe Glu Gly Val Ser Gly His Val Val Phe Asp Ala
 515 520 525
 Ser Gly Ser Arg Met Ala Trp Thr Leu Ile Glu Gln Leu Gln Gly Gly
 530 535 540
 Ser Tyr Lys Lys Ile Gly Tyr Tyr Asp Ser Thr Lys Asp Asp Leu Ser
 545 550 555 560
 Trp Ser Lys Thr Asp Lys Trp Ile Gly Gly Ser Pro Pro Ala Asp Gln
 565 570 575
 Thr Leu Val Ile Lys Thr Phe Arg Phe Leu Ser Gln Lys Leu Phe Ile
 580 585 590
 Ser Val Ser Val Leu Ser Ser Leu Gly Ile Val Leu Ala Val Val Cys
 595 600 605
 Leu Ser Phe Asn Ile Tyr Asn Ser His Ala Arg Tyr Ile Gln Asn Ser
 610 615 620
 Gln Pro Asn Leu Asn Asn Leu Thr Ala Val Gly Cys Ser Leu Ala Leu
 625 630 635 640
 Ala Val Val Phe Pro Leu Gly Leu Asp Gly Tyr His Ile Gly Arg Ser
 645 650 655
 Gln Phe Pro Phe Val Cys Gln Ala Arg Leu Trp Leu Leu Gly Leu Gly
 660 665 670
 Phe Ser Leu Gly Tyr Gly Ser Met Phe Thr Lys Ile Trp Trp Val His
 675 680 685
 Thr Val Phe Thr Lys Lys Glu Glu Lys Lys Glu Trp Arg Lys Thr Leu
 690 695 700

Glu Pro Trp Lys Leu Tyr Ala Thr Val Gly Leu Leu Val Gly Met Asp
 705 710 715 720
 Val Leu Thr Leu Ala Ile Trp Gln Ile Val Asp Pro Leu His Arg Thr
 725 730 735
 Ile Glu Thr Phe Ala Lys Glu Glu Pro Lys Glu Asp Ile Asp Val Ser
 740 745 750
 Ile Leu Pro Gln Leu Glu His Cys Ser Ser Lys Lys Met Asn Thr Trp
 755 760 765
 Leu Gly Ile Phe Tyr Gly Tyr Lys Gly Leu Leu Leu Leu Gly Ile
 770 775 780
 Phe Leu Ala Tyr Glu Thr Lys Ser Val Ser Thr Glu Lys Ile Asn Asp
 785 790 795 800
 His Arg Ala Val Gly Met Ala Ile Tyr Asn Val Ala Val Leu Cys Leu
 805 810 815
 Ile Thr Ala Pro Val Thr Met Ile Leu Ser Ser Gln Gln Asp Ala Ala
 820 825 830
 Phe Ala Phe Ala Ser Leu Ala Ile Val Phe Ser Ser Tyr Ile Thr Leu
 835 840 845
 Val Val Leu Phe Val Pro Lys Met Arg Arg Leu Ile Thr Arg Gly Glu
 850 855 860
 Trp Gln Ser Glu Thr Gln Asp Thr Met Lys Thr Gly Ser Ser Thr Asn
 865 870 875 880
 Asn Asn Glu Glu Lys Ser Arg Leu Leu Glu Lys Glu Asn Arg Glu
 885 890 895
 Leu Glu Lys Ile Ile Ala Glu Lys Glu Glu Arg Val Ser Glu Leu Arg
 900 905 910
 His Gln Leu Gln Ser Arg Gln Gln Leu Arg Ser Arg Arg His Pro Pro
 915 920 925
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 Pro Asp Arg Leu Ser Cys Asp Gly Ser Arg Val His Leu Leu Tyr Lys
 945 950 955 960

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 <211> 961
 <212> PRT
 <213> Homo Sapiens

<400> 21
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 35 40 45
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 50 55 60
 Tyr Val Cys Arg Gly Glu Arg Glu Val Val Gly Pro Lys Val Arg Lys
 65 70 75 80
 Cys Leu Ala Asn Gly Ser Trp Thr Asp Met Asp Thr Pro Ser Arg Cys
 85 90 95
 Val Arg Ile Cys Ser Lys Ser Tyr Leu Thr Leu Glu Asn Gly Lys Val
 100 105 110
 Phe Leu Thr Gly Gly Asp Leu Pro Ala Leu Asp Gly Ala Arg Ala Asp
 115 120 125
 Phe Arg Cys Asp Pro Asp Phe His Leu Val Gly Ser Ser Arg Ser Ile
 130 135 140
 Cys Ser Gln Gly Gln Trp Ser Thr Pro Lys Pro His Cys Gln Val Asn
 145 150 155 160
 Arg Thr Pro His Ser Glu Arg Arg Ala Val Tyr Ile Gly Ala Leu Phe
 165 170 175
 Pro Met Ser Gly Gly Trp Pro Gly Gly Gln Ala Cys Gln Pro Ala Val

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Tyr	Glu Leu Lys Leu Ile His His Asp Ser Lys Cys Asp Pro Gly Gln		
	210	215	220
Ala	Thr Lys Tyr Leu Tyr Glu Leu Leu Tyr Asn Asp Pro Ile Lys Ile		
	225	230	235
Ile	Leu Met Pro Gly Cys Ser Ser Val Ser Thr Leu Val Ala Glu Ala		
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Ala	Arg Met Trp Asn Leu Ile Val Leu Ser Tyr Gly Ser Ser Pro		
	260	265	270
Ala	Leu Ser Asn Arg Gln Arg Phe Pro Thr Phe Phe Arg Thr His Pro		
	275	280	285
Ser	Ala Thr Leu His Asn Pro Thr Arg Val Lys Leu Phe Glu Lys Trp		
	290	295	300
Gly	Trp Lys Lys Ile Ala Thr Ile Gln Gln Thr Thr Glu Val Phe Thr		
	305	310	315
Ser	Thr Leu Asp Asp Leu Glu Glu Arg Val Lys Glu Ala Gly Ile Glu		
	325	330	335
Ile	Thr Phe Arg Gln Ser Phe Phe Ser Asp Pro Ala Val Pro Val Lys		
	340	345	350
Asn	Leu Lys Arg Gln Asp Ala Arg Ile Ile Val Gly Leu Phe Tyr Glu		
	355	360	365
Thr	Glu Ala Arg Lys Val Phe Cys Glu Val Tyr Lys Glu Arg Leu Phe		
	370	375	380
Gly	Lys Lys Tyr Val Trp Phe Leu Ile Gly Trp Tyr Ala Asp Asn Trp		
	385	390	395
Phe	Lys Ile Tyr Asp Pro Ser Ile Asn Cys Thr Val Asp Glu Met Thr		
	405	410	415
Glu	Ala Val Glu Gly His Ile Thr Thr Glu Ile Val Met Leu Asn Pro		
	420	425	430
Ala	Asn Thr Arg Ser Ile Ser Asn Met Thr Ser Gln Glu Phe Val Glu		
	435	440	445
Lys	Leu Thr Lys Arg Leu Lys Arg His Pro Glu Glu Thr Gly Gly Phe		
	450	455	460
Gln	Glu Ala Pro Leu Ala Tyr Asp Ala Ile Trp Ala Leu Ala Leu Ala		
	465	470	475
Leu	Asn Lys Thr Ser Gly Gly Gly Arg Ser Gly Val Arg Leu Glu		
	485	490	495
Asp	Phe Asn Tyr Asn Asn Gln Thr Ile Thr Asp Gln Ile Tyr Arg Ala		
	500	505	510
Met	Asn Ser Ser Ser Phe Glu Gly Val Ser Gly His Val Val Phe Asp		
	515	520	525
Ala	Ser Gly Ser Arg Met Ala Trp Thr Leu Ile Glu Gln Leu Gln Gly		
	530	535	540
Gly	Ser Tyr Lys Lys Ile Gly Tyr Tyr Asp Ser Thr Lys Asp Asp Leu		
	545	550	555
Ser	Trp Ser Lys Thr Asp Lys Trp Ile Gly Gly Ser Pro Pro Ala Asp		
	565	570	575
Gln	Thr Leu Val Ile Lys Thr Phe Arg Phe Leu Ser Gln Lys Leu Phe		
	580	585	590
Ile	Ser Val Ser Val Leu Ser Ser Leu Gly Ile Val Leu Ala Val Val		
	595	600	605
Cys	Leu Ser Phe Asn Ile Tyr Asn Ser His Val Arg Tyr Ile Gln Asn		
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Ser	Gln Pro Asn Leu Asn Asn Leu Thr Ala Val Gly Cys Ser Leu Ala		
	625	630	635
Leu	Ala Ala Val Phe Pro Leu Gly Leu Asp Gly Tyr His Ile Gly Arg		
	645	650	655
Asn	Gln Phe Pro Phe Val Cys Gln Ala Arg Leu Trp Leu Leu Gly Leu		
	660	665	670
Gly	Phe Ser Leu Gly Tyr Gly Ser Met Phe Thr Lys Ile Trp Trp Val		

675	680	685
His Thr Val Phe Thr Lys Lys	Glu Glu Lys Lys	Glu Trp Arg Lys Thr
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Leu Glu Pro Trp Lys Leu Tyr Ala Thr Val Gly	Leu Leu Val Gly	Met
705	710	715
Asp Val Leu Thr Leu Ala Ile Trp Gln Ile Val Asp Pro Leu His Arg		
725	730	735
Thr Ile Glu Thr Phe Ala Lys Glu Glu Pro Lys Glu Asp Ile Asp Val		
740	745	750
Ser Ile Leu Pro Gln Leu Glu His Cys Ser Ser Arg	Lys Met Asn Thr	
755	760	765
Trp Leu Gly Ile Phe Tyr Gly Tyr Lys Gly Leu Leu Leu Leu Gly		
770	775	780
Ile Phe Leu Ala Tyr Glu Thr Lys Ser Val Ser Thr Glu Lys Ile Asn		
785	790	795
Asp His Arg Ala Val Gly Met Ala Ile Tyr Asn Val Ala Val Leu Cys		
805	810	815
Leu Ile Thr Ala Pro Val Thr Met Ile Leu Ser Ser Gln Gln Asp Ala		
820	825	830
Ala Phe Ala Phe Ala Ser Leu Ala Ile Val Phe Ser Ser Tyr Ile Thr		
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Leu Val Val Leu Phe Val Pro Lys Met Arg Arg Leu Ile Thr Arg Gly		
850	855	860
Glu Trp Gln Ser Glu Ala Gln Asp Thr Met Lys Thr Gly Ser Ser Thr		
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Asn Asn Asn Glu Glu Glu Lys Ser Arg Leu Leu Glu Lys Glu Asn Arg		
885	890	895
Glu Leu Glu Lys Ile Ile Ala Glu Lys Glu Glu Arg Val Ser Glu Leu		
900	905	910
Arg His Gln Leu Gln Ser Arg Gln Gln Leu Arg Ser Arg Arg His Pro		
915	920	925
Pro Thr Pro Pro Glu Pro Ser Gly Gly Leu Pro Arg Gly Pro Pro Glu		
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Pro Pro Asp Arg Leu Ser Cys Asp Gly Ser Arg Val His Leu Leu Tyr		
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<211> 2886
<212> DNA
<213> Homo Sapiens

<400> 22

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Thr	Phe	Leu	Ser	Tyr	Glu	Thr	Arg	Asn	Leu	Lys	Leu	Arg	Phe	Ile	Asn
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 Met Lys Ala Leu Phe Asp Leu Ile Ala Ser Arg Pro Arg Pro Val Ala
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 Ile Leu Gly Gly Gln Cys Thr Glu Val Asn Glu Pro Ile Ala Met Ala
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 Leu Lys Tyr Trp Gln Ile Val Gln Leu Ser Tyr Ala Glu Thr His Ala
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 Asp Asn Tyr Val Trp Ile Leu Pro Gly Tyr His Ser Asp Arg Trp Leu
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 275 280 285
 Ile Ala Leu Ser His Ser Met Gly Asp Asn Ala Glu Phe Ser His His
 290 295 300
 Lys Met Met Glu Ala Ile Asp Asn Ser Ser Phe Gln Gly Leu Thr Gly
 305 310 315 320
 Lys Val Lys Phe Ala Asn Asn Glu Arg Leu Gly Leu Val Asp Ile Lys
 325 330 335
 Gln Trp Ser Asp Gly Gln Tyr Val Pro Phe Ala Val Tyr Asp Gly Ala
 340 345 350
 Asp Asp Glu Phe Lys Ile Ile Asp Ser Thr Thr Lys Gly Trp Ser Pro
 355 360 365
 Pro Leu Asp Ser Thr Ile Thr Glu Arg Arg Glu His Ile Ser Ser
 370 375 380
 Ile Leu Phe Leu Ala Met Ser Leu Leu Ala Leu Ile Gly Ile Phe Leu
 385 390 395 400
 Ala Leu Ile Phe Leu Leu Ile Asn Phe Arg Tyr Arg Asn His Arg Phe
 405 410 415
 Ile Lys Met Ser Ser Pro Asn Leu Asn Ile Ile Ile Ala Gly Ser
 420 425 430
 Ile Cys Thr Phe Ala Ser Val Ile Met Leu Gly Leu Asp Thr Arg Ile
 435 440 445
 Val Ser Pro Asp Val Phe Val Trp Leu Cys Tyr Thr Lys Thr Trp Thr
 450 455 460
 Leu Cys Ile Gly Phe Thr Leu Ser Phe Gly Ala Met Phe Ser Lys Thr
 465 470 475 480
 Trp Arg Val His Ser Ile Phe Thr Asn Ile Arg Met Asp Arg Lys Ala
 485 490 495
 Ile Lys Asp Ser Lys Leu Phe Ile Ile Leu Gly Ile Leu Leu Phe Ile
 500 505 510

Asp Ile Cys Val Leu Val Thr Trp Ala Phe Val Ser Pro Phe Ser Tyr
 515 520 525
 Thr Val Glu Gln Phe Lys Phe Leu Ile Phe Ser Ala Arg Arg Asn Ile
 530 535 540
 Val Ile Ile Pro Glu Val Glu Lys Cys Asn Ser Ser His Ser Gly Val
 545 550 555 560
 Phe Gln Ala Val Leu Tyr Ala Val Lys Gly Val Leu Met Ile Leu Gly
 565 570 575
 Cys Phe Leu Ala Trp Glu Thr Arg His Val Asn Val Pro Ala Leu Asn
 580 585 590
 Asp Ser Lys Tyr Ile Gly Thr Ser Val Tyr Cys Cys Val Val Met Ser
 595 600 605
 Val Leu Gly Leu Ser Thr Ser Val Ile Leu Gln Glu Arg Val Asn Glu
 610 615 620
 Met Phe Ser Leu Ala Ser Phe Phe Val Ile Phe Ser Thr Thr Leu Thr
 625 630 635 640
 Leu Cys Leu Val Phe Val Pro Lys Val Arg Phe Leu Glu Leu Cys Cys
 645 650 655
 Ile Gly Ser

<210> 44
 <211> 585
 <212> PRT
 <213> Homo Sapiens

<400> 44
 Met Val Gly Leu Leu Leu Phe Phe Pro Ala Ile Phe Leu Glu Val
 1 5 10 15
 Ser Leu Leu Pro Arg Ser Pro Gly Arg Lys Val Leu Leu Ala Gly Ala
 20 25 30
 Ser Ser Gln Arg Ser Val Ala Arg Met Asp Gly Asp Val Ile Ile Gly
 35 40 45
 Ala Leu Phe Ser Val His His Gln Pro Pro Ala Glu Lys Val Pro Glu
 50 55 60
 Arg Lys Cys Gly Glu Ile Arg Glu Gln Tyr Gly Ile Gln Arg Val Glu
 65 70 75 80
 Ala Met Phe His Thr Leu Asp Lys Ile Asn Ala Asp Pro Val Leu Leu
 85 90 95
 Pro Asn Ile Thr Leu Gly Ser Glu Ile Arg Asp Ser Cys Trp His Ser
 100 105 110
 Ser Val Ala Leu Glu Gln Ser Ile Glu Phe Ile Arg Asp Ser Leu Ile
 115 120 125
 Ser Ile Arg Asp Glu Lys Asp Gly Ile Asn Arg Cys Leu Pro Asp Gly
 130 135 140
 Gln Ser Leu Pro Pro Gly Arg Thr Lys Lys Pro Ile Ala Gly Val Ile
 145 150 155 160
 Gly Pro Gly Ser Ser Val Ala Ile Gln Val Gln Asn Leu Leu Gln
 165 170 175
 Leu Phe Asp Ile Pro Gln Ile Ala Tyr Ser Ala Thr Ser Ile Asp Leu
 180 185 190
 Ser Asp Lys Thr Leu Tyr Lys Tyr Phe Leu Arg Val Val Pro Ser Asp
 195 200 205
 Thr Leu Gln Ala Arg Ala Met Leu Asp Ile Val Lys Arg Tyr Asn Trp
 210 215 220
 Thr Tyr Val Ser Ala Val His Thr Glu Gly Asn Tyr Gly Glu Ser Gly
 225 230 235 240
 Met Asp Ala Phe Lys Glu Leu Ala Ala Gln Glu Gly Leu Cys Ile Ala
 245 250 255
 His Ser Asp Lys Ile Tyr Ser Asn Ala Gly Glu Lys Ser Phe Asp Arg
 260 265 270
 Leu Leu Arg Lys Leu Arg Glu Arg Leu Pro Lys Ala Arg Val Val Val

	275	280	285
Cys	Phe Cys Glu Gly Met	Thr Val Arg Gly Leu	Leu Ser Ala Met Arg
290	295	300	
Arg	Leu Gly Val Val Gly	Glu Phe Ser Leu Ile	Gly Ser Asp Gly Trp
305	310	315	320
Ala	Asp Arg Asp Glu Val	Ile Glu Gly Tyr	Glu Val Ala Asn Gly
	325	330	335
Gly	Ile Thr Ile Lys Leu Gln	Ser Pro Glu Val Arg	Ser Phe Asp Asp
	340	345	350
Tyr	Phe Leu Lys Leu Arg	Leu Asp Thr Asn Thr	Arg Asn Pro Trp Phe
	355	360	365
Pro	Glu Phe Trp Gln His	Arg Phe Gln Cys Arg	Leu Pro Gly His Leu
	370	375	380
Leu	Glu Asn Pro Asn Phe	Lys Arg Ile Cys	Thr Gly Asn Glu Ser Leu
385	390	395	400
Glu	Glu Asn Tyr Val Gln	Asp Ser Lys Met	Gly Phe Val Ile Asn Ala
	405	410	415
Ile	Tyr Ala Met Ala His	Gly Leu Gln Asn Met	His His Ala Leu Cys
	420	425	430
Pro	Gly His Val Gly Leu Cys	Asp Ala Met Lys	Pro Ile Asp Gly Ser
	435	440	445
Lys	Leu Asp Phe Leu Ile	Lys Ser Ser Phe	Ile Gly Val Ser Gly
	450	455	460
Glu	Glu Val Trp Phe Asp	Glu Lys Gly Asp	Ala Pro Gly Arg Tyr Asp
465	470	475	480
Ile	Met Asn Leu Gln Tyr	Thr Glu Ala Asn Arg	Tyr Asp Tyr Val His
	485	490	495
Val	Gly Thr Trp His Glu Gly Val	Leu Asn Ile Asp Asp	Tyr Lys Ile
	500	505	510
Gln	Met Asn Lys Ser Gly Val	Val Arg Ser Val Cys	Ser Glu Pro Cys
	515	520	525
Leu	Lys Gly Gln Ile Lys Val	Ile Arg Lys Gly	Glu Val Ser Cys Cys
	530	535	540
Trp	Ile Cys Thr Ala Cys	Lys Glu Asn Glu	Tyr Val Gln Asp Glu Phe
545	550	555	560
Thr	Cys Lys Ala Cys Asp	Leu Gly Trp Trp	Pro Asn Ala Asp Leu Thr
	565	570	575
Gly	Cys Glu Pro Ile Pro Val Arg	Tyr	
	580	585	

<210> 45

<211> 369

<212> PRT

<213> Escherichia coli

<400> 45

Met	Lys Arg Asn Ala Lys	Thr Ile Ile Ala	Gly Met Ile Ala Leu Ala
1	5	10	15
Ile	Ser His Thr Ala Met	Ala Asp Asp Ile	Lys Val Ala Val Val Gly
	20	25	30
Ala	Met Ser Gly Pro Ile	Ala Gln Trp Gly	Ile Met Glu Phe Asn Gly
	35	40	45
Ala	Glu Gln Ala Ile Lys	Asp Ile Asn Ala	Lys Gly Gly Ile Lys Gly
	50	55	60
Asp	Lys Leu Val Gly Val	Glu Tyr Asp Asp	Ala Cys Asp Pro Lys Gln
65	70	75	80
Ala	Val Ala Val Ala Asn	Lys Ile Val Asn Asp	Gly Ile Lys Tyr Val
	85	90	95
Ile	Gly His Leu Cys Ser	Ser Ser Thr	Gln Pro Ala Ser Asp Ile Tyr
	100	105	110
Glu	Asp Glu Gly Ile Leu Met	Ile Ser Pro	Gly Ala Thr Ala Pro Glu
	115	120	125

Leu Thr Gln Arg Gly Tyr Gln His Ile Met Arg Thr Ala Gly Leu Asp
 130 135 140
 Ser Ser Gln Gly Pro Thr Ala Ala Lys Tyr Ile Leu Glu Thr Val Lys
 145 150 155 160
 Pro Gln Arg Ile Ala Ile Ile His Asp Lys Gln Gln Tyr Gly Glu Gly
 165 170 175
 Leu Ala Arg Ser Val Gln Asp Gly Leu Lys Ala Ala Asn Ala Asn Val
 180 185 190
 Val Phe Phe Asp Gly Ile Thr Ala Gly Glu Lys Asp Phe Ser Ala Leu
 195 200 205
 Ile Ala Arg Leu Lys Lys Glu Asn Ile Asp Phe Val Tyr Tyr Gly Gly
 210 215 220
 Tyr Tyr Pro Glu Met Gly Gln Met Leu Arg Gln Ala Arg Ser Val Gly
 225 230 235 240
 Leu Lys Thr Gln Phe Met Gly Pro Glu Gly Val Gly Asn Ala Ser Leu
 245 250 255
 Ser Asn Ile Ala Gly Asp Ala Ala Glu Gly Met Leu Val Thr Met Pro
 260 265 270
 Lys Arg Tyr Asp Gln Asp Pro Ala Asn Gln Gly Ile Val Asp Ala Leu
 275 280 285
 Lys Ala Asp Lys Lys Asp Pro Ser Gly Pro Tyr Val Trp Ile Thr Tyr
 290 295 300
 Ala Ala Val Gln Ser Leu Ala Thr Ala Leu Glu Arg Thr Gly Ser Asp
 305 310 315 320
 Glu Pro Leu Ala Leu Val Lys Asp Leu Lys Ala Asn Gly Ala Asn Thr
 325 330 335
 Val Ile Gly Pro Leu Asn Trp Asp Glu Lys Gly Asp Leu Lys Gly Phe
 340 345 350
 Asp Phe Gly Val Phe Gln Trp His Ala Asp Gly Ser Ser Thr Ala Ala
 355 360 365
 Lys

<210> 46
 <211> 344
 <212> PRT
 <213> Escherichia coli

<400> 46
 Glu Asp Ile Lys Val Ala Val Val Gly Ala Met Ser Gly Pro Val Ala
 1 5 10 15
 Gln Tyr Gly Asp Gln Glu Phe Thr Gly Ala Glu Gln Ala Val Ala Asp
 20 25 30
 Ile Asn Ala Lys Gly Gly Ile Lys Gly Asn Lys Leu Gln Ile Ala Lys
 35 40 45
 Tyr Asp Asp Ala Cys Asp Pro Lys Gln Ala Val Ala Val Ala Asn Lys
 50 55 60
 Val Val Asn Asp Gly Ile Lys Tyr Val Ile Gly His Leu Cys Ser Ser
 65 70 75 80
 Ser Thr Gln Pro Ala Ser Asp Ile Tyr Glu Asp Glu Gly Ile Leu Met
 85 90 95
 Ile Thr Pro Ala Ala Thr Ala Pro Glu Leu Thr Ala Arg Gly Tyr Gln
 100 105 110
 Leu Ile Leu Arg Thr Thr Gly Leu Asp Ser Asp Gln Gly Pro Thr Ala
 115 120 125
 Ala Lys Tyr Ile Leu Glu Lys Val Lys Pro Gln Arg Ile Ala Ile Val
 130 135 140
 His Asp Lys Gln Gln Tyr Gly Glu Gly Leu Ala Arg Ala Val Gln Asp
 145 150 155 160
 Gly Leu Lys Lys Gly Asn Ala Asn Val Val Phe Phe Asp Gly Ile Thr
 165 170 175
 Ala Gly Glu Lys Asp Phe Ser Thr Leu Val Ala Arg Leu Lys Lys Glu

	180	185	190												
Asn	Ile	Asp	Phe	Val	Tyr	Tyr	Gly	Gly	Tyr	His	Pro	Glu	Met	Gly	Gln
	195			200							205				
Ile	Leu	Arg	Gln	Ala	Arg	Ala	Ala	Gly	Leu	Lys	Thr	Gln	Phe	Met	Gly
	210			215						220					
Pro	Glu	Gly	Val	Ala	Asn	Val	Ser	Leu	Ser	Asn	Ile	Ala	Gly	Glu	Ser
	225			230						235				240	
Ala	Glu	Gly	Leu	Leu	Val	Thr	Lys	Pro	Lys	Asn	Tyr	Asp	Gln	Val	Pro
	245			250					250				255		
Ala	Asn	Lys	Pro	Ile	Val	Asp	Ala	Ile	Lys	Ala	Lys	Lys	Gln	Asp	Pro
	260			265					265			270			
Ser	Gly	Ala	Phe	Val	Trp	Thr	Thr	Tyr	Ala	Ala	Leu	Gln	Ser	Leu	Gln
	275			280					280			285			
Ala	Gly	Leu	Asn	Gln	Ser	Asp	Asp	Pro	Ala	Glu	Ile	Ala	Lys	Tyr	Leu
	290			295					295			300			
Lys	Ala	Asn	Ser	Val	Asp	Thr	Val	Met	Gly	Pro	Leu	Thr	Trp	Asp	Glu
	305			310					310			315			320
Lys	Gly	Asp	Leu	Lys	Gly	Phe	Glu	Phe	Gly	Val	Phe	Asp	Trp	His	Ala
	325			330					325			330			335
Asn	Gly	Thr	Ala	Thr	Asp	Ala	Lys								
	340														